User-Centered Factors for Digital ERP Implementation

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Aim/Purpose	This article presents the study of an ERP implementation in a non-profit organization with the aim to identify people-centered factors for its success.
Background	Studying the experience of customers, employees, and partners remain the focus of a lot of research. Integrated information systems paradigms such as digital platforms and enterprise resources planning is still not well understood. It seems however, that companies continue to face challenges to get its stakeholders on board. The recent new paradigm of digital platforms present enhanced opportunities to traditional ERP in the form of organizations rethinking (yet again) how they do business and in remodeling the experiences of their human ecosystem, namely their customers, employees and partners.
Methodology	A survey methodology approach was followed to collect data from an international non-profit organization. An Exploratory Factor Analysis (EFA) was performed to identify the relevant factors that can influence levels of satisfaction towards the process of ERP implementation and its success.
Findings	This study identifies five factors that can impact the status of digital ERP implementation satisfaction and success. We align digital platform with the traditional notion of ERP implementation, thereby revealing the promise of redesigning of ERP into a digital platform paradigm. Finally, we argue that a human-centered approach is necessary to get the user ecosystem on board and maximize the chances of success.
Impact on Society	This study shows that human-centered digital innovations include two primary dimensions namely content and human interaction with the content. Five human centered factors, may be the start of a more effective and efficient working environments where employees use digital platforms the entire day to carry out their job functions. More studies are required to reveal other areas of the human factor in that organizational setting. The ultimate goal is how to innovate with digital platforms for a better quality of life at work as well as after, when all employees go back to their families and friends.
Keywords	ERP implementation, user ecosystem, digital platform, factors of success

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☒ Behaviour	☐ Environmental	☐ Consciousness
☐ Cognition	☒ Social	☐ Physical Wellbeing

INTRODUCTION

Enterprise Resource Planning (ERP) systems refer to organizational information systems that are implemented to improve process efficiency by integrating operational and tactical processes and functions. ERP systems, in today's digital state, are evolving into digital platforms providing a range of advantages such as flexibility, interoperability, reusability, and shareability of its components such as services and content. They are becoming crucial in enabling the organizational digital environment and its sustainability/adaptability.

A platform in the traditional context, as elaborated by Gawer (2009), is viewed as a set of technology-based building blocks that can be used to produce new products, technologies and services. An ERP system meets this definition in the sense that it is composed of technologies layered in such a way to allow for the production of functional-based information services. Recent exponential advancement in digital technologies have paved the way for the next evolutionary step of platforms into the space of information technology enabled systems, leading to a new paradigm in the development of products and services. ERP systems have been leading in that transformation from the traditional platforms into digital platforms.

ERPs provide real-time data and thus, make it possible for organizations to conduct accurate and timely decisions (Holland & Light, 1999). A primary benefit for implementing ERP systems is to create open and efficient information flows within the organization's functional areas and between partner companies, suppliers, distributors and customers (Shang & Seddon, 2000). The need to implement improved business processes is a direct result of what has become an increasingly competitive environment that is plagued with production delays and challenges. This kind of environment can lead to a loss of financial resources and a decline in competitive advantage. Umble et al (2003) elaborate on the ability of ERP systems to address these problems and to provide a broad range view of all functions of an enterprise by means of a single system. ERP implementations are expected to streamline and improve business processes and efficiency and lead to further savings in terms of money and time (Shang & Seddon, 2000).

However, with the recent pervasive penetration in the digital arena, new opportunities for ERP systems are realized. The new Digital ERP (DERP) needs to be redesigned to take into account a wide range of changes in recent IT-capabilities such as heterogeneity, greater diverse user base and the constant addition of new products and services complements (Hanseth & Lyytinen, 2010, Spagnoletti et al., 2015).

Departments influenced by the digital implementation of ERP systems include finance, human resources, operations, logistics, sales and marketing. Consequently, it is not an easy feat to implement ERP systems successfully within organizations unless there is a commitment for a digital strategy. In fact, it is very common for companies to fail at successfully implementing ERPs in the workplace (Xue et.al, 2005, Mashari & Mudimigh, 2003). Originally, companies will often experience costly or delayed implementations riddled with issues that hinder a proper adaptation of the ERP strategy (Chen et al, 2009) to current digital strategy. Chen et al (2009) discuss their findings from 2004 which shows that 90% of ERP implementations, at that time, were delivered late or exceeded their allocated budgets. This seems to remain true due to the introduction of the digital platform context which requires the redesign of traditional ERP systems into the new DERP. Chen et al (2009) also found that enterprise initiatives have a 67% fail rate when it comes to achieving corporate goals. In addition, the study found that ERPs are generally perceived negatively by employees. This continues to be a challenge, despite the new digital innovation, due to the human element of the digital platform arena.

From a human perspective, over the years, a shift has occurred in the perception of ERPs, from viewing ERP systems as a program and tool into viewing them as a set of inter-related processes. Organizations are realizing that ERP system development and implementation requires a validated

strategy that aligns to their needs. However recently, the digital platform context added further challenges that require to integrate business strategy with a global organizational digital strategy. This major change in approach, on the one hand, has resulted in larger numbers of companies successfully reaping the benefits of introducing ERP systems to their organization. On the other hand, new challenges rose in term of rethinking the organizational digital infrastructure and platform which necessitate the redesign of their technology investments as well as adapting their human resources roles and functions as part of the newly desired synchronized digital-human organization. O'Leary (2000) argues that ERP systems are utilized in major corporations in the world and can influence the behavior of competitors, especially if they were transformed into a digital platform. DERP systems have the potential to initiate the utilization of best practices across the various sectors in this new Industry 4.0. The introduction of DERP systems is expected to increase over time, and as companies along the same supply chain diversify and increase their uptake, it will ultimately lead to increased efficiencies and innovations in business process management.

Considering all the promised made by digital platforms, their success can only be measured by the human element. How different stakeholders participate in the digital strategy, design and its implementation play a central role in realizing the digital platform promises. User satisfaction is considered as one of the most important measures of DERP implementation success. According to Peter et al, (2013) there are six dimensions that determine the success of IT systems. In addition to user satisfaction, other dimensions include: system quality, information quality, use of system and individual and organizational impact. Certain researchers focus on user satisfaction from a project management perspective during ERP implementation (DeLone & McLean, 2016). According to Barooudi & Orlikowski (1998), user satisfaction is an important means of measuring end-user opinions on ERP systems and should cover the entire end-user experience cycle from project management to the receipt of information. Gatian (1994), believes that user satisfaction can be used to measure the success of implementing information systems. Powers & Dickson (1973) utilized the satisfaction factors of users to measure MIS project success. Rajan and Baral (2015) applied user satisfaction as a measure of MIS success in small organization settings. They identified user satisfaction as an important factor in measuring success.

This paper presents the results of a study of an ERP implementation where a digital strategy was only available at the IT department and not at the organizational level; and seeks to determine what factors are critical to its success, from the human element perspective, namely the users.

LITERATURE REVIEW

While planning for an ERP implementation, user satisfaction factors are required to ensure an efficient ERP venture for an organization. There are various stages of an ERP implementation process; each stage provides a better understanding of the advancement and performance of the ERP. According to (Somers & Nelson, 2001) there are six stages that make up the ERP implementation process. The stages are initiation, adoption, adaption, acceptance, routinization and infusion. Bharathi & Parikh (2012) identify some additional stages: planning, acquisition, implementation, usage, percolation and extension. Although these stages help explain the process from a conceptual perspective, the concept of stages is not commonly used by many organizations.

However, when the ERP transformation occurs from the traditional system into a digital platform context, for example moving SAP to HANA database, then Viorel-Costin (2019) elaborates on six studies that identify the following stages (unified herein not in order): Initiation, adoption, adaptation, infusion, routinization, acceptance, design, stabilization, continuous improvement transformation, adoption decision, acquisition, use and maintenance, evolution, and retirement.

There are several industry solutions designed by various ERP vendors, which is why it becomes of utmost importance for organizations to choose an ERP solution that complements their needs. Some researchers focus on specific success factors that play a role in user satisfaction.

1. Case studies by Soh et al (2003) and Somers & Nelson (2001) focus on the selection of appropriate ERP packages:
 - a. This would be the main factor for successful ERP implementation.
2. Nah et al (2003) examine how Chief Information Officers perceive the importance of user satisfaction and how they use their understanding to achieve successful ERP implementation. They conclude the following several factors are all necessary to ensure that an ERP implementation is successful and that users are satisfied:
 - a. top management support,
 - b. project champions,
 - c. team work and composition,
 - d. project management,
 - e. change management,
 - f. effective communication,
 - g. business plan and vision,
 - h. BPR,
 - i. proper development and testing of the software,
 - j. monitoring and evaluation of the ERP performance, in addition to
 - k. an appropriate balance of ERP systems and the legacy systems
3. Rebstock and Selig (2000) studied the complexities associated with ERP projects that span geographical boundaries. They found that
 - a. There should be a focus on re-engineering of business processes because they are important for a successful ERP implementation.,
 - b. They argue that the workflows resulting from the business process re-engineering should be understandable to the local community,
 - c. Also, in order to achieve that level of understanding, in-depth training should be provided,
 - d. Users should also be involved in the business process creation,
 - e. There should also be an independent evaluation of the business processes created prior to the conclusion of the initiation stage where the basic foundation for the next few years of ERP usage are established (Kim and Mchaney, 2000).
 - f. A catalogue of best business processes should be created and followed and constantly referred to in order to stay on the right track during the harmonization of the processes.
 - g. Continuous monitoring and evaluation of the business processes over a period of time is required to ensure that the organization is following the most recent and efficient processes in the industry (Rahat, 2005).
4. Umble et al, (2003) believe that the following are some of the procedures that are critical to the success of an ERP implementation and the guarantee of user satisfaction:
 - a. Commitment from upper management,
 - b. Excellent project management plans,
 - c. A competent implementation team,
 - d. Accuracy of data,
 - e. Extensive education,
 - f. User training,
 - g. Focused measures to evaluate performance and
 - h. The celebration of small wins during the implementation process

5. A study conducted by Aloini et al (2012) researched the risk factors associated with ERP implementation by means of a case study and identified ten risk factors that can help reduce risks in an ERP implementation. The factors identified as triggering user dissatisfaction were:
 - a. Improper selection,
 - b. Ineffective strategic thinking and planning,
 - c. Poor project management and managerial conduct,
 - d. Inadequate change management,
 - e. Low quality training and instruction,
 - f. Weak project team skills,
 - g. Inadequate BPR,
 - h. Low top management involvement and
 - i. Low key user involvement.
6. A study conducted by Wang et al, (2008) examined the consistency among the facilitating factors and ERP implementation success and concluded through empirical analysis that the following factors are all facilitating factors related to the success of the ERP implementation:
 - a. Consultant competence,
 - b. Vendor support,
 - c. The competence of ERP project team members,
 - d. Project management leadership,
 - e. Top management support,
 - f. End user support,
 - g. Decision making and control,
 - h. Efficiency and profitability of the system.

Needless to say, that changing the IT infrastructure and solution of an organization is challenging and difficult. However, in today's digital world, all organizations need to transform their information systems into a digital platform if they are to survive. From all the factors identified by the many studies above, they all point to one point of reference, that which is the human element.

Yoo et al. (2010) presented his study of the new organization logic of digital innovation where he proposed a layered architecture of digital technology, or what some may also refer to as digital platform. In the context of DERP, the layered architecture demonstrates the challenges for transformation. These layers are

- a. Device layer
 - a. Logical capability
 - b. Physical machinery
- b. Network layer
 - a. Logical transmission
 - b. Physical transport
- c. Service layer
- d. Contents layer

The promise of this layered architecture for DERP implementation is its expansion of the original ERP integration concept which now is characterized by a complex and overlapping mapping between functional areas (business processes) and with tightly coupled physical components. This is a new paradigm shift for ERP implementation where digital components are embedded into physical products paving the way for digital product innovation. With all the digital advancements and opportunities, there remains one critical factor in the background necessary for the success of DERP implementation and that is the human element.

Entangled with digital technologies are people. The people who identify needs, the people who do foundational knowledge creation work, the people who produce data, the people who develop and make sense of digital innovations and the people who establish direction and strategy. These not mutually exclusive people should be centered in the work place for the management of organizational digital scholarship and innovation, advancing the appropriate application of business processes and technologies. In centering humanity in digital scholarship, Shorish Y. (2019) elaborates and discusses those issues and offers some possible courses of action “as we work to be stewards of cultural heritage in a just and ethical manner”.

In the present context of DERP, the implementation process from its initiation (identifying a need) to its adoption and handover to operations, is all about people. The challenge is what courses of action should we take to engage the different stakeholder at different times and in which capacities. This is too large to address herein, and in our present study, we propose five human-related factors to study a DERP implementation in a specific not for profit organization.

THEORETICAL FRAMEWORK

As elaborated earlier, user satisfaction can be considered as one of the most important measures of DERP implementation. A survey methodology approach was followed for the collection of quantitative data regarding the user experience with Agresso. A validated scale for user satisfaction (Doll & Torkzadeh, 1988) was used to measure the user satisfaction with the DERP system implementation. Figure 1 which is adapted from Doll and Torkzadeh (1998) shows the constructs that were considered: Timeliness of information, content of information, format of information, accuracy of information, and ease of use of information. It is evident that all these constructs relate to the human element of the digital platform use since it is people who create the information, and enter it in the DERP as they attempt to adhere to established business processes.

Figure 1: Constructs design as used in the End User Satisfaction Survey with ERP Systems, Adapted for the UN Organizations.

RESEARCH METHOD

BUSINESS ENVIRONMENT CONTEXT OF STUDY

The research work presented herein takes place in a non-profit organization (NPO) that has undertaken a medium size ERP (such as AGRESSO) implementation over a seven-year period and which has been met with limited success. This ERP system has been implemented across many organizations including over twenty UN agencies. In fact, over 3,000 companies in over 100 countries have deployed Agresso Business World both for operational and strategic support. Despite this large number of deployments, there is relatively hardly any research on ERP implementation and a limited analysis of factors that led to successful implementations at some agencies and why they failed in others.

In this context, and considering the transformation into digital platforms, it is expected from top management that the DERP implementation would change the way things worked in the organization. Top management is expecting that the DERP break the silos of information in the organization, help provide transparency across the various functional units of data and progress, operate in a more flexible competitive landscape, and help build vibrant digital ecosystems (Eisenman et al. 2006).

The organizational culture of the NPO can be described as political and bureaucratic. The environment can be described as extremely hierarchical with a lot of formalities and policies. There are many factors impacting how any particular decision is made. According to Wallach (1983), bureaucratic cultures have clear lines of responsibility and authority. Work is highly organized, compartmentalized and systematic, while information and authority flows are hierarchical and based on control and power. The sharing of information in such organizations is dependent on the mentality of the employees and the type of data being handled.

There was a general perception that the organizational culture in this NPO would hinder the realization of the DERP potential and benefits. This would occur mainly due to the lack of power of some of the involved units and the anti-data sharing mentality of certain employees. Notwithstanding the lack of readiness for digital transformation, the inadequate and lacking digital infrastructure, and missing digital strategy at the organizational level. A lot of emphasis is placed on data ownership in the organization and on employee hesitancy to share information out of fear that it could result in loss of power for them.

The NPO has been operating for over 70 years. The NPO is specialized in the development of standards, best practices, complementary policies, auditing and capacity-building for various stakeholders around the world.

DATA COLLECTION AND SURVEY

A measure of end user satisfaction is the output of individual experiences with the technology being used. The financial performance of the DERP system is another measure to access its success in the organization (Rogerson et al, 2017). Access to information is secured by owners and is not accessible to other functional units. Thus, it was not possible to measure the financial success. From the interviews and observations, the term “hijacking” was used by several employees who were dissuaded that the organization had invested a lot of money in Agresso implementation and they had yet to see any results. Certain members of senior management voiced concern that the ERP system was not producing the expected benefits.

The general sentiment was that this was not a very profitable implementation for the organization. The survey however, did not reflect how the employees who did use the ERP system for daily tasks felt about the system. What did these daily users think about the various components of the ERP such as its information accuracy, the timeliness of information, the format of the output and how did they rate ease of use? Did they feel that the content was relevant to their work? All the above factors need to be explored to measure the success of ERP system with respect to user satisfaction.

SURVEY PROCEDURE

The survey was conducted via a structured and brief questionnaire designed to allow participants to maintain reasonable focus and attention and to answer questions appropriately. The scale to measure end user computing satisfaction with the ERP system in place was taken from the Doll and Torkzadeh (1988). End User Satisfaction survey (Table 1). The scale was developed keeping in mind both the primary and secondary users of the NPO. The survey has been cited and used many times, which emphasizes the validity of the scale. Primary users are the employees who interact with the ERP system on a daily basis (Doll and Xia, 1996). Secondary users were employees who use the system to extract reports but do not utilize the system on a daily basis.

The scale contains five variables that are used to measure user satisfaction – an outcome of the implementation of the ERP and which includes the state of the digital infrastructure of the NPO. Table 1 contains three columns: the first column on the left provides an intuitive label for each question. The middle and third columns present the questions used in the survey. Doll and Torkzadeh (1988) measured the satisfaction of users who had direct interaction with the computer and those using a target specific application. The questions were utilized and adapted for the current study as shown in the third column furthest to the right to run EFA (Exploratory Factor Analysis).

THE SURVEY

The survey included five variables / constructs, each variable with a number of questions, totaling seventeen questions:

- a. Five questions to measure satisfaction with the content of the ERP system (C1 to C5). This factor measured whether the employees understood the content and whether they found it useful and relevant to their work.
- b. Three questions were used to measure satisfaction with the perceived accuracy of the ERP system (A1, A2 and A3). This factor measured if the employees felt that the information provided by the ERP was accurate and relevant for their work and whether it could be replaced by the information provided by legacy systems.
- c. Four questions were used to measure the user experience with the format of the ERP (F1 to F4). Although there was a single ERP in the organization, the survey took into consideration that every user would have a different perception of the format of the system. This factor measured the perception of users regarding the format of the ERP system.
- d. Three questions were used to measure the satisfaction of the employees regarding the ease to use the system effectively (E1 to E3). This taps directly into the expertise of the employees with the system which results from providing training on how to use the system (Mchaney et al, 2002). Ease of use is a subjective phenomenon and varies across individuals. As a result, it has been referred to as perceived ease of use in the technology acceptance model (Davis, 1985). In this NPO context, it can be expected that there would not be a lot of variation in

the perceived ease of use of the system as the employees share a similar tenure at the organization.

- e. Finally, two questions were used to measure the satisfaction of the employees regarding the time taken to retrieve information from the ERP system and the measure of the updated information (T1 and T2). This is an external variable and is not subject to variations across employees. The timely information enhances the user experience with the ERP systems and creates a positive perception about the ERP's dimensions (the information accuracy, the format and the content).

Table 1. Questionnaire comparison between Doll and Torkzadeh and the present study.

	Questionnaire based on Doll and Torkzadeh (1988)	Question in current study
T1	Does the system provide up-to-date information?	The ERP provides up-to-date information
T2	Do you get the information you need in time?	I get the information that I need in an appropriate time frame
E1	Is the system efficient?	The ERP is efficient
E2	Is the system easy to use?	The ERP is easy to use
E3	Is the system user friendly?	The ERP is user friendly
F1	Is the output easy to understand?	The output is easy to understand
F2	Are you happy with the layout of the output?	I am happy with the layout of the reports from the ERP
F3	If the information clear	The information from the ERP is clear
F4	Do you think the output is presented in a useful format?	I think that the output from the ERP is presented in a useful manner
A1	Do you find the system dependable?	I feel that the ERP is dependable
A2	Do you feel the output is reliable?	I feel that the output from the ERP is reliable
A3	- Are you satisfied with the accuracy of the system? - Is the system accurate?	The ERP system provides me with accurate information
C1	Do you find the output relevant?	I find the output from the ERP relevant for my work
C2	Does the system provide sufficient information?	The ERP provides sufficient information to carry out my work
C3	Does the system provide reports that seem to be just about exactly what you need?	The ERP provides reports that seem to be just about what I need
C4	Does the information content meet your needs?	The ERP content meets my needs at work
C5	Does the system provide the precise information you need?	The ERP provides me with precise information that I need

In an NPO, due to its political nature the questions needed to be phrased appropriately. It is important to also note that the reliability coefficient for this scale in the present study was 0.997. The next section discusses the analysis of the quantitative data and the results achieved.

ANALYSIS AND RESULTS

The factor analysis was conducted by performing the test for Kaiser's measure of sampling adequacy as shown in Table 2. MSA values below 0.5 are considered insignificant and should not be included in further analysis. As the entire variables are above 0.5 with an overall MSA of 0.918, they are retained for further analysis.

Table 2. Kaiser's Measure of Sampling Adequacy.

Overall MSA = 0.91778962																
T1	T2	E1	E2	E3	F1	F2	F3	F4	A1	A2	A3	C1	C2	C3	C4	C5
0.95	0.94	0.9	0.84	0.86	1	0.91	0.94	0.96	0.95	0.91	0.94	0.9	0.96	0.88	0.93	0.9

Table 3 shows the amount of the variance of each statement shared by other questions. We also found that the SMC value for all the questions was fairly high which implies a principal component analysis would yield similar results.

Table 3: Variance Shared by Each Item (Statement).

Variance Shared																
T1	T2	E1	E2	E3	F1	F2	F3	F4	A1	A2	A3	C1	C2	C3	C4	C5
0.81	0.79	0.86	0.92	0.93	1	0.88	0.89	0.84	0.76	0.88	0.82	0.8	0.77	0.8	0.84	0.8

In Table 4, variables that have a proportion of the eigenvalue that contribute more than 1% to the common variance are retained. This criterion goes to show that the remaining eigenvalues with a proportional contribution of less than 1% account for little common variance are not relevant. In Table 5, the factor loadings above 0.5 are extracted. Factor six would be dropped since all factor loadings for factor six are below 0.5. Factor one would also be known as accuracy, as the questions A1, A2, A3 loaded in this factor explain the perception of the accuracy of the information/data from the ERP system. Also, factor two would be known as ease of use, since the questions E2, E3 that are retained in the factor explain the perception of users concerning the ease of use of the ERP system. Similarly, factor three will be noted as format, since the questions F1, F2, F3, C3 loaded in this factor refer to the format of the data from the ERP system. Factor four will be known as content since the questions C2, C4 loaded in this factor refer to the content of the data. Finally, factor five will be noted as timeliness, as the questions T2, E1 loaded in the factor explain the timeliness of the data in the ERP system.

Table 4: Factor Loadings for each of the 5 Extracted Dimensions.

Dimension	Factor Loading
A1	0.79
A2	0.84
A3	0.73
E1	0.92
E2	0.89
F1	0.67
F2	0.73
F3	0.58
F4	0.53
C1	0.67
C2	0.69
T1	0.64
T2	0.53

Referring to Table 4, questions A1, A2, & A3 are loaded under accuracy. Questions E1 and E2 are loaded under ease of use while questions F1, F2, & F3 are loaded under format. Question C3 is also loaded under the format dimension as opposed to the categorization according to Doll and Torkzadeh (1988) who mentioned question C3 under content. Similarly, C1 and C2 are classified under content and T2 and T2 (formerly referred to as E1) are retained and classified under the timeliness dimension. Table 5 explains the variance of each factor and ignores other factors. It is necessary to mention that for all the five factors, the variance is high except for factor six which was removed.

Table 5: Variance Explained by Each Factor.

Accuracy	Ease of use	Format	Content	Timeless	Factor6
9.005	7.209	8.403	8.365	7.582	0.783

DISCUSSION

This study investigates factors that influence end-user satisfaction towards ERP implementation within a global organizational setting. Common factor analysis resulted in the reduction of the number of questions from 18 to 13 questions and re-grouped them under the original five factors. It can be concluded that timeliness, ease of use, format, accuracy and content (viewed in the not for profit international sector as workflows) of information are factors that determine user satisfaction of ERP systems implementation as applied today within the digital arena. This goes along with the results of Gelderman (1988) where a correlation was found to exist between user satisfaction and usage of information systems. In an NPO context, employees perceive ERP systems positively because they provide them with information in a timely and efficient manner. The format of the ERP, provision of accurate information and meaningful content can also amplify employee satisfaction with the system (Hassan & Mathiassen, 2017).

With regards to ERP system implementations there is a lack of research with respect to user involvement along two areas, namely the organizational digital platform and the integration of the ERP, both of which are central parts to today's digital innovation (DI) paradigm. We found that previous studies did not prove the association between user satisfaction and the success and effectiveness of ERPs nor were there any studies that addresses the coupling of ERP systems with the digital platforms. In other words, how is an ERP system (a traditional paradigm) part of digital platforms (modern most current paradigm), such as the SAP S/HANNA. Further analysis is needed to influence the direction of a more focused and integral research in future DERP implementation and user involvement studies.

One can find many accounts and blogs on the internet discussing digital platforms and the path to its success. But many companies seem to have difficulties getting on board and/or reengineer (realign) their IT and information systems (IS) infrastructures to this DP paradigm. Many agree that these companies have the tendency (difficult to break old habits) to approach DP by focusing on technology investments first. They tend to acquire technologies and then struggle to fit them in a way that aligns and serves their business processes. This approach, which may have been acceptable 20 years ago, now does not work especially due to the fact people's IT knowledge is a little more advanced than two decades ago. The acquisition of digital technologies alone serves no purpose and have no organizational value. The way they are utilized by people enables them to provide value for the organization's operations. This in turn constitutes the human-centered digital operating model where the people create value for the organization.

In this study, we focused on user experiences during an ERP implementation process and addressed issues that might hinder the effective utilization of the ERP system by its users. This study provides a better understanding of the factors that influence user satisfaction of ERPs and explains how these factors can determine the success of a project in the context of an NPO. The approach utilized in this study is unique as it seeks to identify factors from multiple sources and breaks them down into main factors that have an influence on user satisfaction. Factors such as perceived content, output, and ease of use, accuracy and system format are important influencers for DERP design and implementation.

Currently, although there are some general guidelines suggesting ways to determine what factors can enhance ERP user satisfaction and DERP success, there still seems to be a lack of a framework identifying the dimensions and relationships to bridge the gap between digital innovation and ERP transformation. This study can be replicated at other NPOs to help deliver an improved understanding of the common and distinct factors that influence user satisfaction of ERP systems, but it also needs to include assessment for digital infrastructure and digital organizational culture such as digital readiness.

Future research on this topic could potentially focus on the relationship between various human-centered factors of ERP success and how to improve their implementation across different organizational bodies and departments. The establishment of this knowledge base can be utilized by NPOs that are on the verge of embarking on their own ERP implementations.

Our findings point towards the need for a human-centered approach to DERP implementation. In an organizational setting, taking employee perspectives into consideration at the early implementation stage of the DERP implementation allows for system issues to be detected and dealt prior to them becoming problematic. There needs to be a focus on the people who will be using the DERP. These people should include not only employees, but customers and partners (eg. Suppliers) – *This is what we would call the DP human ecosystem.*

When the DP human ecosystem is involved in the development of early implementation stage, they are more likely to perceive the system as important and relevant. This type of proactivity undoubtedly results in higher usage rates and removes potential inefficiencies from the ERP process. This proactive approach also ensures the continued progress of the organization and streamlines its ability to implement industry best practices. *Afterall, ownership of the DERP should not be viewed to be that of the organization, but in this new brave digital world should be given to the organizational human ecosystem.*

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